AO 121 (6/90)

TO:	
COMMISSIONER OF PATENTS AND TRADEMARKS (USPTO) P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OF DETERMINATION OF AN ACTION OR APPEAL REGARDING A COPYRIGHT

In compliance with the Act of July 19, 1952 (66 Stat. 814; 35 U.S.C. 290) you are hereby advised that a court action has been filed on the following patent(s) in the U.S. District Court:

DOCKET	DATE FILED	UNITED STATES DISTRICT COURT, NORTHERN DISTRICT OF ILLINOIS, EASTERN DIVISION
1:10-cv-00461	1/22/2010	
PLAINTIFF Pactiv Corporation		**DEFENDANT** Multisorb Technologies, Inc. et al

PATENT NO.	DATE OF PATENT	PATENTEE
~~See Attached~~	See Attached	See Attached
5,698,250		
5,948,457		
6,183,790		
5,811,142		
6731,905		

In the above-entitled case, the following patent(s) have been included:

DATE INCLUDED	INCLUDED BY [ ] Amendment [ ] Answer [ ] Cross Bill [ ] Other Pleading	
PATENT NO.	DATE OF PATENT	PATENT

In the above-entitled case, the following decision has been rendered or judgment issued:

DECISION/JUDGMENT		
CLERK Michael W. Dobbins	(BY) DEPUTY CLERK Tiana Davis	DATE 1/25/2010

US005698250A

United States Patent [19]

DelDuca et al.

[11] Patent Number: 5,698,250

[45] Date of Patent: Dec. 16, 1997

[54] MODIFIELD ATMOSPHERE PACKAGE FOR CUT OF RAW MEAT

[75] Inventors: Gary R. DelDuca, Canandaigua; Alan E. Deyo, Rushville; Vinod K. Luthra; Wen P. Wu, both of Pittsford, all of N.Y.

[73] Assignee: Tenneco Packaging Inc., Evanston, Ill.

[21] Appl. No.: 627,137

[22] Filed: Apr. 3, 1996

[51] Int. Cl.[6] A23B 4/00

[52] U.S. Cl. 426/124; 53/432; 206/557; 426/129; 426/133; 426/392; 426/396

[58] Field of Search 53/432–434; 426/124, 426/127, 129, 133, 396, 418, 392; 206/557

[56] References Cited

U.S. PATENT DOCUMENTS

1,679,543	8/1928	Rector	426/124
2,825,651	3/1958	Loo et al.	426/124
3,330,670	7/1967	Grindrod et al.	426/129
3,363,395	1/1968	King	53/112
3,419,400	12/1968	Hayhurst et al.	426/124
3,467,244	9/1969	Mahaffy et al.	206/45.34
3,481,100	12/1969	Bergstrom	53/22
3,545,163	12/1970	Mahaffy et al.	53/22
3,574,642	4/1971	Weinke	99/174
3,634,993	1/1972	Pusco et al.	53/22 A
3,650,775	3/1972	Simon et al.	99/174
3,679,093	7/1972	Chang	220/990.2
3,686,822	8/1972	Wolfelsperger	53/22 A
3,750,362	8/1973	Kishpaugh et al.	53/22 A
3,792,181	2/1974	Mahaffy et al.	426/123
3,843,806	10/1974	Kishpaugh et al.	426/106
3,851,441	12/1974	Marchand	53/116
3,903,309	9/1975	Mahaffy et al. .	
4,201,030	5/1980	Mahaffy et al.	53/432
4,242,659	12/1980	Baxter et al.	338/28
4,308,711	1/1982	Mahaffy et al.	53/511
4,340,138	7/1982	Bernhardt	206/216
4,349,999	9/1982	Mahaffy et al.	53/128
4,411,122	10/1983	Cornish et al.	53/436
4,424,659	1/1984	Perigo et al.	53/425
4,454,945	6/1984	Jabarin et al.	206/524.3
4,517,206	5/1985	Murphy et al.	426/115
4,543,770	10/1985	Walter et al.	53/511
4,574,174	3/1986	McGonigle	219/10.55 M
4,581,764	4/1986	Plock et al.	383/101
4,622,229	11/1986	Toshitsugu	426/395
4,622,239	11/1986	Schoenthaler et al.	427/96
4,683,139	7/1987	Cheng	426/265
4,683,702	8/1987	Vis	53/433

(List continued on next page.)

OTHER PUBLICATIONS

"Longer product shelf life using modified atmosphere packaging" Nancy Muller, The National Provisioner, Feb. 1, 1986, pp. 19–23.

"Controlled & modified atmosphere packaging", Fran Labell, Jan. 1985 Food Processing, pp. 153–154.

Brochure: Fuji–Formost FW–3700 "High Speed Horizontal Form–Fill Seal Machine", 1992.

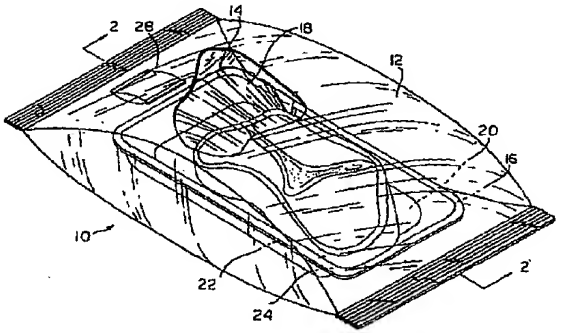
Brochure: Multiform Disiccants Inc., "FreshPax Oxygen Absorbing Packets", 1994.

Primary Examiner—Joseph W. Drodge
Attorney, Agent, or Firm—Arnold, White & Durkee

[57] ABSTRACT

A modified atmosphere packaging system and method creates a modified atmosphere in a package including an inner container and an outer container. The inner container is composed at least partially of a polymeric material substantially permeable to oxygen, while the outer container is composed of a polymeric material substantially impermeable to oxygen. After a food product such as raw meat is placed within the inner container, the inner container is flushed with a desired mixture of gases to substantially remove oxygen from the inner container. The flushed inner container is then sealed and inserted into the outer container without sealing the outer container. Next, the outer container is flushed with the desired mixture of gases to substantially remove oxygen from the outer container. After flushing the outer container, the outer container is sealed. An oxygen scavenger is provided in the package to substantially absorb any residual oxygen within the package.

24 Claims, 2 Drawing Sheets



United States Patent [19]

DelDuca et al.

[11] **Patent Number: 5,948,457**

[45] **Date of Patent: *Sep. 7, 1999**

[54] **MODIFIED ATMOSPHERE PACKAGE**

[75] Inventors: **Gary R. DelDuca**, Canandaigua; **Alan E. Deyo**, Rushville; **Vinod K. Luthra**; **Wen P. Wu**, both of Pittsford, all of N.Y.

[73] Assignee: **Tenneco Packaging Inc.**, Evanston, Ill.

[*] Notice: This patent is subject to a terminal disclaimer.

[21] Appl. No.: **09/094,008**

[22] Filed: **Jun. 9, 1998**

Related U.S. Application Data

[63] Continuation of application No. 08/763,719, Dec. 13, 1996, Pat. No. 5,811,142, which is a continuation-in-part of application No. 08/627,137, Apr. 3, 1996, Pat. No. 5,698,250.

[51] **Int. Cl.**[6] **A23B 4/00**

[52] **U.S. Cl.** **426/124**; 53/432; 206/557; 426/129; 426/133; 426/392; 426/396

[58] **Field of Search** 426/124, 129, 426/133, 392, 396, 397, 410, 418; 206/213.1, 557; 53/432–434, 510; 252/188.28

[56] **References Cited**

U.S. PATENT DOCUMENTS

1,475,396	11/1923	Kestner .	
1,679,543	8/1928	Rector	426/124
2,825,651	3/1958	Loo et al.	99/171

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

457457	4/1991	European Pat. Off. .
06278774	10/1994	Japan .
06343815	12/1994	Japan .
92/4298	6/1992	South Africa .

OTHER PUBLICATIONS

Brochure: :Fuji–Formost FW–3700 "High Speed Horizontal Form–Fill Seal Machine", 1992.

Brochure: Multiform Disiccants Inc., FreshPax Oxygen Absorbing Packets, 1994.

"Longer Product Shelf Life Using Modified Atmosphere Packaging," Nancy Muller, The National Provisioner, Feb. 1, 1986, pp. 19–23.

"Controlled and Modified Atmosphere Packaging," Fran Labell, Jan., 1985, Food Processing, pp. 152–154.

List of Oxygen Absorber References, pp. 1–32, Undated.

Leward, D.A., "Metmyoglobin Formation in Beef Stored in Carbon Dioxide Enriched and Oxygen Depleted Atmospheres," Journal of Food Science vol. 35 pp. 33–37 (1970).

Gill, C. O., et al., "The Use of Oxygen Scavengers to Prevent Transcient Discolouration of Ground Beef Packaged Under Controlled, Oxygen–depleted Atmospheres," Meat Science, vol. 41, No. 1, pp. 19–27, (1995).

Gill, C. O., "Extending the Storage Life of Raw Chilled Meats," Elsevier Science Ltd., S99–S109 (1990).

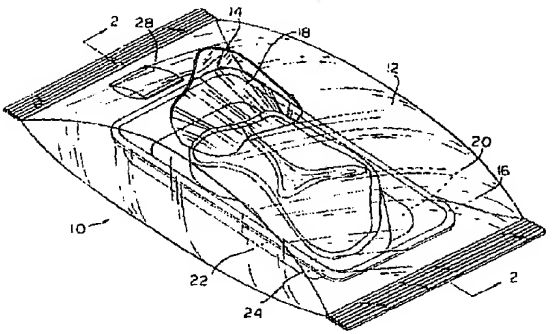
Primary Examiner—Joseph W. Drodge

Attorney, Agent, or Firm—Arnold White & Durkee

[57] **ABSTRACT**

A modified atmosphere packaging method creates a modified atmosphere in a package including an inner package and an outer package. The inner package is composed at least partially of a polymeric material substantially permeable to oxygen, while the outer package is composed of a polymeric material substantially impermeable to oxygen. After a food product such as raw meat is placed within the inner package, the inner package is flushed with a desired mixture of gases to substantially remove oxygen from the inner package. The flushed inner package is then sealed and inserted into the outer package without sealing the outer package. Next, the outer package is flushed with the desired mixture of gases to substantially remove oxygen from the outer package. After flushing the outer package, the outer package is sealed. An oxygen scavenger is provided in the package to substantially absorb any residual oxygen within the package. The oxygen scavenger is activated with an oxygen uptake accelerator to increase the rate at which the residual oxygen is absorbed.

17 Claims, 3 Drawing Sheets



(12) **United States Patent**
DelDuca et al.

(10) **Patent No.: US 6,183,790 B1**
(45) **Date of Patent: *Feb. 6, 2001**

(54) **MODIFIED ATMOSPHERE PACKAGE**

(75) Inventors: **Gary R. DelDuca**, Cannadaigua; **Alan E. Deyo**, Rushville; **Vinod K. Luthra**; **Wen P. Wu**, both of Pittsford, all of NY (US)

(73) Assignee: **Pactiv Corporation**, Lake Forest, IL (US)

(*) Notice: Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/384,517**

(22) Filed: **Aug. 27, 1999**

Related U.S. Application Data

(63) Continuation of application No. 09/094,008, filed on Jun. 9, 1998, now Pat. No. 5,948,457, which is a continuation of application No. 08/763,719, filed on Dec. 13, 1996, now Pat. No. 5,811,142, which is a continuation-in-part of application No. 08/627,137, filed on Apr. 3, 1996, now Pat. No. 5,698,250.

(51) **Int. Cl.**[7] **A23B 4/00**

(52) **U.S. Cl.** 426/124; 426/129; 426/133; 53/432; 206/557

(58) **Field of Search** 426/124, 129, 426/133, 392, 396, 397, 410, 418; 206/213.1, 557; 252/188.28; 53/432, 433, 434

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,475,396	11/1923	Kestner .
1,679,543	8/1928	Rector .
2,732,092	1/1956	Lawrence .
2,825,651	3/1958	Loo et al. .
3,083,861	4/1963	Amberg et al. .

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

0 457 457 A2	11/1991	(EP) .
0 468 880 A1	1/1992	(EP) .
0 547 761 A1	6/1993	(EP) .
1 556 853	11/1979	(GB) .
6 278 774	10/1994	(JP) .
6 343 815	12/1994	(JP) .

OTHER PUBLICATIONS

Abstract: 0 320 215 0 (Japan), Undated.
Application: 924298; Jun. 12, 1992; De Muelenaere et al.
Gill, "Extending the Storage Life of Raw Chilled Meats," Agriculture and Agri-Food Canada Research Centre, Undated.
Gill et al., "The Use of Oxygen Scavengers to Prevent the Transient Discolouration of Ground Beef Packaged Under Controlled, Oyxgen-depleted Atmospheres," *Meat Science* 41(1):19-27 (1995).

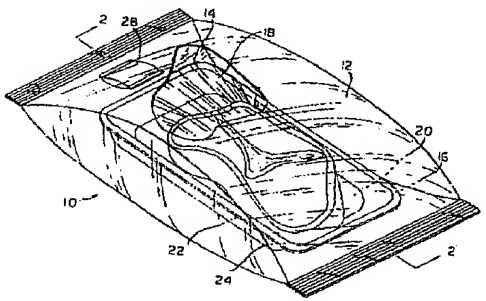
(List continued on next page.)

Primary Examiner—Joseph W. Drodge
(74) *Attorney, Agent, or Firm*—Jenkens & Gilchrist

(57) **ABSTRACT**

A modified atmosphere packaging method creates a modified atmosphere in a package including an inner package and an outer package. The inner package is composed at least partially of a polymeric material substantially permeable to oxygen, while the outer package is composed of a polymeric material substantially impermeable to oxygen. After a food product such as raw meat is placed within the inner package, the inner package is flushed with a desired mixture of gases to substantially remove oxygen from the inner package. The flushed inner package is then sealed and inserted into the outer package without sealing the outer package. Next, the outer package is flushed with the desired mixture of gases to substantially remove oxygen from the outer package. After flushing the outer package, the outer package is sealed. An oxygen scavenger is provided in the package to substantially absorb any residual oxygen within the package. The oxygen scavenger is activated with an oxygen uptake accelerator to increase the rate at which the residual oxygen is absorbed.

10 Claims, 3 Drawing Sheets



United States Patent [19]

DelDuca et al.

[11] **Patent Number: 5,811,142**

[45] **Date of Patent: *Sep. 22, 1998**

[54] **MODIFIED ATMOSPHERE PACKAGE FOR CUT OF RAW MEAT**

[75] Inventors: **Gary R. DelDuca**, Canandaigua; **Alan E. Deyo**, Rushville; **Vinod K. Luthra**; **Wen P. Wu**, both of Pittsford, all of N.Y.

[73] Assignee: **Tenneco Packaging**, Evanston, Ill.

[*] Notice: The term of this patent shall not extend beyond the expiration date of Pat. No. 5,698,250.

[21] Appl. No.: **763,719**

[22] Filed: **Dec. 13, 1996**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 627,137, Apr. 3, 1996, Pat. No. 5,698,250.

[51] **Int. Cl.**[6] **A23B 4/00**

[52] **U.S. Cl.** **426/424**; 53/432; 206/557; 426/129; 426/133; 426/392; 426/396

[58] **Field of Search** 426/124, 129, 426/133, 392, 396, 397, 410, 418; 206/213.1, 557; 53/432–434, 510; 252/188.28

[56] **References Cited**

U.S. PATENT DOCUMENTS

1,475,396	11/1923	Kestner .	
1,679,543	8/1928	Rector	99/181
2,825,651	3/1958	Loo et al.	99/171
3,363,395	1/1968	King	53/112
3,419,400	12/1968	Hayhurst et al.	99/171

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

457457	4/1991	European Pat. Off. .
06278774	10/1994	Japan .
06343815	12/1994	Japan .
92/4298	6/1992	South Africa .

OTHER PUBLICATIONS

List of Oxygen Absorber References, pp. 1–32, undated.

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Gill, C. O., et al., "The Use of Oxygen Scavengers to Prevent Transcient Discolouration of Ground Beef Packaged Under Controlled, Oxygen-depleted Atmospheres," Meat Science, vol. 41, No. 1, pp. 19–27, (1995).

Gill, C. O., "Extending the Storage Life of Raw Chilled Meats," Elsevier Science Ltd., S99–S109 (1990).

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"Controlled and Modified Atmosphere Packaging," Fran Labell, Jan. 1985, Food Processing, pp. 152–154.

Brochure: :Fuji–Formost FW–3700 "High Speed Horizontal Form–Fill Seal Machine", 1992.

Brochure: Multiform Disiccants Inc., FreshPax Oxygen Absorbing Packets, 1994.

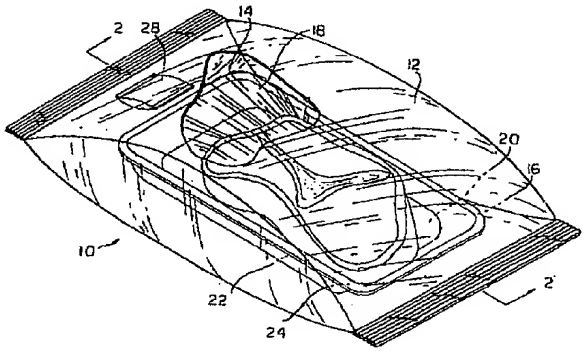
Primary Examiner—Joseph W. Drodge

Attorney, Agent, or Firm—Arnold, White & Durkee

[57] **ABSTRACT**

A modified atmosphere packaging method creates a modified atmosphere in a package including an inner package and an outer package. The inner package is composed at least partially of a polymeric material substantially permeable to oxygen, while the outer package is composed of a polymeric material substantially impermeable to oxygen. After a food product such as raw meat is placed within the inner package, the inner package is flushed with a desired mixture of gases to substantially remove oxygen from the inner package. The flushed inner package is then sealed and inserted into the outer package without sealing the outer package. Next, the outer package is flushed with the desired mixture of gases to substantially remove oxygen from the outer package. After flushing the outer package, the outer package is sealed. An oxygen scavenger is provided in the package to substantially absorb any residual oxygen within the package. The oxygen scavenger is activated with an oxygen uptake accelerator to increase the rate at which the residual oxygen is absorbed.

15 Claims, 3 Drawing Sheets



(12) **United States Patent**
DelDuca et al.

(10) **Patent No.: US 6,231,905 B1**
(45) **Date of Patent: *May 15, 2001**

(54) **SYSTEM AND METHOD OF MAKING A MODIFIED ATMOSPHERE PACKAGE COMPRISING AN ACTIVATED OXYGEN SCAVENGER FOR PACKAGING MEAT**

(76) Inventors: **Gary R. DelDuca**, 82 Howell St., Canandaigua, NY (US) 14424; **Alan E. Deyo**, 66 S. Main St., Rushville, NY (US) 14544; **Vinod K. Luthra**, 21 Barrington Hills; **Wen P. Wu**, 4 Silver Pines Dr., both of Pittsford, NY (US) 14534

(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/168,659**

(22) Filed: **Oct. 8, 1998**

(51) **Int. Cl.**[7] **B65B 55/00**

(52) **U.S. Cl.** **426/118**; 426/129; 426/316; 426/319; 426/324; 426/332; 426/396; 426/404; 426/410; 426/415

(58) **Field of Search** 426/118, 129, 426/324, 332, 316, 319, 404, 396, 415, 410; 53/427, 432, 434

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,083,372	4/1978	Boden	131/8
4,127,503	11/1978	Yoshikawa et al.	252/429

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

9184759 *	4/1992	(AU) .	
0 457 457 A2	11/1991	(EP) .	
0 468 880 A1	1/1992	(EP) .	
0 547 761 A1	6/1993	(EP) .	
698563	2/1996	(EP) .	

(List continued on next page.)

OTHER PUBLICATIONS

Abstract: 0 320 215 0 (Japan) JP Application Date pub Sep. 3, 1991.

Application: 924298; Jun. 12, 1992; De Muelenaere et al.

Gill, "Extending the Storage Life of Raw Chilled Meats," Agriculture and Agri-Food Canada Research Centre; (1990).

(List continued on next page.)

Primary Examiner—Nina Bhat
(74) *Attorney, Agent, or Firm*—Jenkens & Gilchrist, P.C.

(57) **ABSTRACT**

A packaging system and method utilizes a modified atmosphere package including a first package and a second package. The first package includes a non-barrier portion substantially permeable to oxygen, while the second package is substantially impermeable to oxygen. After a food product such as raw meat is placed within the first package, the first package is sealed and then inserted into the second package without sealing the second package so as to create a pocket between the first and second packages. The system and method first employ an oxygen reduction technique such as evacuation, gas flushing, and/or scavenging to quickly reduce the oxygen level in the pocket to a first non-zero level, and then employ an activated oxygen scavenger to further reduce the oxygen level to zero percent after the package is sealed. The oxygen scavenger is activated with an oxygen uptake accelerator to increase the rate at which the oxygen is absorbed. The oxygen scavenger is positioned external to the first package to aggressively absorb any residual oxygen within the pocket and the first package and absorb any oxygen that might seep into the modified atmosphere package.

22 Claims, 6 Drawing Sheets